

DENTAL HYGIENE SPACE-SAVER ORGANIZER

TECHNICAL FIELD OF THE INVENTION

[0001] This invention relates to the field of dental hygiene and, more specifically, to an improved dental hygiene organizing and storage apparatus for such dental hygiene equipment as toothbrushes, toothpaste, dental floss and mouth rinse for use within the bathroom setting.

BACKGROUND OF THE INVENTION

[0002] Personal dental care is a chore that is often complicated by disorganized bathrooms wherein such dental care equipment as tooth brushes, toothpaste, dental floss and mouthwash often share the same limited spaces within the medicine cabinet, toilet top and the like. Such methods of random storage of dental hygiene equipment can result in lost or hard-to-find personal items and, in the worst case, can cause toothbrushes belonging to the various members of a household to come into contact with each other, thereby presenting the problems associated with the unwanted sharing of germs. More generally, dental care equipment also shares the spaces with the likes of medicines in the medicine cabinet, cleansers, disinfectants, toilet cleaners, aftershave, perfume, and all the other assorted items typically found in bathrooms.

- [0003] Below are listed various United States patents for, and brief descriptions of, inventions relating to the difficulties associated with the management of dental care equipment:
- [0004] U.S. Patent Application No. 2002/0166874 to DeVaux discloses, for example, a specialized toothpaste and floss dispensing device that mounts on a wall.
- [0005] U.S. Patent No. 6,401,727 ('727) to Carroll discloses, for example, a personal hygiene storage container comprised of a plurality of drawers or stacked trays covered with hinged lids. The patent discloses an optional drying fan on its back portion. It requires a relatively large area to sit upon, such as at least the width of a toilet tank.
- [0006] U.S. Patent No. 5,662,130 to Wiltshire discloses, for example, a stand-alone dental hygiene storage unit having vertically oriented toothbrush storage wells, drawers, a toothpaste dispenser, and a dental floss device. As with the aforementioned '727 Patent, it requires a relatively large area upon which to sit.
- [0007] U.S. Patent No. 5,524,980 to Carter et al. discloses, for example, a medicine cabinet organizing insert designed specifically for installation within a medicine cabinet. It consists of adjustable shelves, some of which have specific slots for storing particular articles. It has hinges so that, when installed in a medicine cabinet, it can swing out to allow access to the more permanent shelves lying behind it.

- [0008] U.S. Patent No. 5,332,107 to Williams discloses, for example, a dental care structure specifically designed for wall mounting use only. For example, it includes a backing plate for mounting on a wall and hangers for various dental devices including a toothpaste tube and one or more toothbrushes.
- [0009] U.S. Patent No. 5,228,595 to Booker discloses, for example, a child-friendly dental device for holding and dispensing oral hygiene products. It holds a single toothbrush and is designed to stand alone on a flat surface.
- [0010] U.S. Patent No. 5,203,473 to Wiley discloses, for example, a toothpaste dispenser and extractor apparatus comprised of a wall-mounting vertical structure and an axle member slot to receive a toothpaste tube and to aid in the dispensing of the toothpaste.
- [0011] U.S. Patent No. 4,979,708 to Aoki discloses, for example, a suction-cup mounted holder for a single child's tooth. The body of the invention has the shape and contour of an animated character.
- [0012] U.S. Patent No. 4,248,254 to Trimble discloses, for example, a wall-mounting container for dental articles in which a number of reel devices are adapted to pay-out and reel-in of toothbrushes. The toothbrushes, when not in use, hang with brush ends oriented downwards. The brush heads of the toothbrushes are free to make contact with one another when in storage.

- [0013] U.S. Patent No. 4,140,222 to Francavilla discloses, for example, a display holder for dental articles adapted to hold three or more different articles. It is a wall-mounted device designed to be useful as a children's dental hygiene teaching aid.
- [0014] U.S. Patent No. 3,228,737 to Kipnis discloses, for example, a wall-mounting toiletry rack for holding various personal toilet articles such as toothbrushes, a razor, shaving cream, drinking glass and the like.
- [0015] U.S. Patent No. 3,138,414 to La Pollo discloses, for example, a wall-mounting sanitary rack for toothbrushes and dentifrice which includes a dust-proofing shield to maintain the toothbrushes in a separated and sanitary condition.

ASPECTS OF THE INVENTION

- [0016] It is an aspect of the present invention to provide a dental hygiene storage system, or organizer, suitable for either wall-mounting or for storage within a medicine cabinet, vanity, or a bathroom linen closet, as defined in one or more of the appended claims and, as such, having the capability of being constructed to accomplish one or more of the following subsidiary aspects.
- [0017] One aspect of the present invention is to provide a dental hygiene storage organizer that can minimize the over-crowding of medicine cabinets by providing a compact dental hygiene

storage organizer that helps utilize all available space in a cabinet.

- [0018] Another aspect of the present invention is to provide a dental hygiene storage organizer that separates each toothbrush within it's own space, separated from adjacent toothbrushes.
- [0019] Yet another aspect of the present invention is to provide a dental hygiene storage organizer that can accommodate any type of toothbrush that is on the market today, conventional and some battery powered.
- [0020] Still another aspect of the present invention is to provide a dental hygiene storage organizer upon which labels can be placed to designate the precise toothbrush holder for each person in the household.
- [0021] A yet further aspect of the present invention is to provide a dental hygiene storage organizer having a removable and easy-to-clean drip tray at the bottom of the toothbrush storage area.
- [0022] A still further aspect of the present invention is to provide a dental hygiene storage organizer having a dental floss storage compartment that can accommodate standard sizes and shapes of dental floss containers and which includes a side opening giving easy access to the dental floss container.

- [0023] Yet another aspect of the present invention is to provide a dental hygiene storage organizer that can hold small or large toothpaste tubes, with or without a toothpaste extractor device.
- [0024] Yet still another aspect of the present invention is to provide a dental hygiene storage organizer having walls that comprise a holder for squeeze bottles of toothpaste.
- [0025] And still another aspect of the present invention is to provide a dental hygiene storage organizer having the optional benefit of a door cover.

SUMMARY OF THE INVENTION

- [0026] The present invention is a dental hygiene organizing and storage apparatus for dental hygiene equipment, comprising a front surface and a rear wall spaced from each other a distance suitable for placement of the organizing and storage apparatus within a medicine cabinet. The dental hygiene organizing and storage apparatus further comprises a first storage space for removable storage of a toothpaste tube, a second storage space for removable storage of a container of dental floss, and a third storage space for removable storage of a plurality of toothbrushes in isolation from one another. A drip tray is disposed below the third storage space. The first storage space has a retainer wall with a slot there through to receive an axle of a toothpaste extractor. The third storage space includes individual supporting structures for storing the plurality of individual toothbrushes, and a separating partition between

each of the individual toothbrushes. The drip tray is removable. The storage space for the removable storage of a container of dental floss has a side slot providing finger access to the dental floss container. The front surface of the dental hygiene organizing and storage apparatus can have has a covering door hingeably attached thereto.

[0027] A second embodiment of the present invention is a dental hygiene organizing and storage apparatus for dental hygiene equipment, comprising a front surface and a rear wall spaced from each other a distance suitable for placement of the organizing and storage apparatus within a medicine cabinet. The dental hygiene organizing and storage apparatus further comprises a first storage space for removable storage of a toothpaste tube, a second storage space for removable storage of a container of dental floss, a third storage space for removable storage of a plurality of toothbrushes in isolation from one another, and a fourth storage space for removable storage of a bottle of dental related fluid such as mouth rinse. A drip tray is disposed below the third storage space. The first storage space has a retainer wall with a slot there through to receive an axle of a toothpaste extractor. The third storage space includes individual supporting structures for storing the plurality of individual toothbrushes, and a separating partition between each of the individual toothbrushes. The drip tray is removable. The storage space for the removable storage of a container of dental floss has a side slot providing finger access to the dental floss container. The front surface of the dental

hygiene organizing and storage apparatus can have has a covering door hingeably attached thereto.

BRIEF DESCRIPTION OF THE DRAWINGS

- [0028] **FIGURE 1** is an orthogonal front view of one embodiment of the present invention;
- [0029] **FIGURE 2** is an orthogonal side view of the embodiment of the present invention shown in FIGURE 1;
- [0030] **FIGURE 3** is an orthogonal front view of another embodiment of the present invention;
- [0031] **FIGURE 4** is an orthogonal side view of the embodiment of the present invention shown in FIGURE 3;
- [0032] **FIGURE 5** is an isometric view of a first embodiment of the present invention; and
- [0033] **FIGURE 6** is an isometric view of the embodiment shown in FIGURE 3, in accordance with the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

- [0034] The dental hygiene storage organizer 10 according to the present invention is designed to eliminate or minimize over crowding of bathrooms generally and of medicine cabinets in particular by helping to utilize available space and organize such household dental hygiene equipment as toothbrushes,

toothpaste, floss, and mouthwash. The dental hygiene storage organizer 10 is characterized by providing each toothbrush with a cubby wherein it is separated from other toothbrushes thus minimizing the potential for the transfer of germs. Each such cubby is designed to store most designs of toothbrushes on the market, conventional and or some battery operated. The storage organizer 10 provides room for storing of up to two toothbrushes per cubby. It provides easy access to toothpaste and to dental floss containers. And it has a removable drip tray that can easily be cleaned and dried.

- [0035] The aforementioned patents disclose storage organizers that have the property of being either exclusively of the wall-mount design or require a large surface area to sit upon, such as that equivalent to the top surface area of the cover of a toilet reservoir tank. One of the storage organizers incorporates a reel-in device to which individual tooth brushes are connected, and another includes an electrical ventilating fan for evaporation of water that falls into the device. Several of the storage organizers are intended mainly for use by children.
- [0036] In contrast, the storage organizer 10 of the present invention is simple in design, having a front surface and a rear wall spaced from each other a distance suitable for placement of the organizing and storage apparatus within a medicine cabinet, or, alternatively, to be hung upon a wall or used or in a free-standing mode upon a flat surface such as a toilet tank top. In one embodiment, it comprises a first storage space for

removable storage of a toothpaste tube, a second storage space for removable storage of a container of dental floss, and a third storage space for removable storage of a plurality of toothbrushes in isolation from one another. A drip tray is disposed below the third storage space in which the toothbrushes are held.

- [0037] The storage organizer 10 provides easy removable storage access of a toothpaste tube equipped with a toothpaste extractor. That is, the first storage space wherein the toothpaste tube is held has a retainer wall with a slot therethrough to receive an axle of a toothpaste extractor. The provision for removable storage of a container of dental floss includes a side slot providing finger access to the dental floss container. A plurality of toothbrushes can be stored in isolation from one another, so as to minimize the potential for transfer of germs. That is to say, individual supporting structures for storing a plurality of individual toothbrushes is provided, with a separating partition between each of the individual toothbrushes. The present invention also has a drip tray beneath the toothbrushes. The drip tray is removable, so as to be easily dried and cleaned. And the organizer 10 has a covering door hingeably attached to it. Another embodiment of the present invention also provides a space for the removable storage of a bottle of dental related fluid such as mouth rinse or dental disinfectant.

[0038] The dental hygiene storage organizer 10 according to the present invention preferably has a front to back depth of between about 2.0 inches to about 4.0 inches and more preferably between about 2.5 inches to about 3.5 inches. It preferably has an overall height of between about 8 inches and about 12 inches and more preferably between about 9.5 inches to about 10.5 inches. And the organizer 10 preferably has a width of between about 7.0 inches and about 11.0 inches and more preferably between about 8.5 inches to about 10.0 inches. While both the first and second embodiments of the present invention can be sized as set forth directly above, it is also within the terms of the present invention to form the organizer with different sized shape dependind on the specific requirements where it is to be used.

[0039] Referring to FIGURE 1 there is shown, in orthogonal front view, one version of the dental hygiene storage organizer 10 of the present invention providing storage space for four toothbrushes 12 which hang from individual supporting structures 14 having separating partitions 16, such as to comprise storage cubbies 17 for each toothbrush. While a single toothbush is shown in each cubby 17, it is within the terms of the present invention for each such storage cubby 17 to hold two or more toothbrushes 12. A tube of toothpaste 18 is held within a space 20 having two side walls 21a and 21b, a back wall 23, and a forward retaining wall 24 having a trough or slot 26 therethrough to accommodate the axle of a toothpaste extractor 28 of the sort that makes use of an axle upon which

the toothpaste tube winds so as to efficiently remove toothpaste from the tube. Also shown in FIGURE 1 is a container 11 of dental floss within its own storage space 13 and, adjacent the dental floss accommodation 13, a removable drip tray 15 having little pull handles 15a. The drip tray 15 receives and accumulates water that falls from the stored toothbrushes 12. The dental hygiene organizer 10, according to the present invention, also has spaces 19 over each toothbrush 12 whereupon are shown the names of each user of each respective toothbrush. Hinges, or hinge elements, 25 to accommodate a covering door (not shown in this drawing) that is hingeably attached to the side wall 43b of the main body of the storage organizer 10. While the hinges or hinge elements 25 are located on one side of the organizer 10, it is within the scope of the invention to place the hinge elements in any position, as desired.

- [0040] Referring to FIGURE 2 there is shown an orthogonal side view of the version 10 of the present invention shown in front view in FIGURE 1. This side view shows the end wall 21a and a side slot 22 providing finger access to reach and extract from storage the dental floss container 11 within its storage space 13.
- [0041] Referring now to FIGURE 3, there is shown in orthogonal front view a second embodiment of the dental hygiene organizer 30, according to the present invention, containing two toothbrushes 12 which hang from supporting structures 32 having separating

partitions 34. [NOTE: Similar callout numbers are used in different drawings to designate items that are essentially unchanged from one drawing to another.] A tube of toothpaste 18 is held within a confinement 20 having two side walls 21a and 21b, a back wall 23, and a front retaining wall 24 spaced from the back wall 23. The wall 24 has a slot 26 therethrough to accommodate a toothpaste extractor 28 of the sort that makes use of an axle upon which the toothpaste tube winds so as to efficiently remove toothpaste from the tube. Also shown in FIGURE 3 is a container of dental floss 11 within its own storage space 13 and, adjacent the dental floss accommodation 13, a removable drip tray 33 having a little pull handle 35. The removable drip tray 33 receives and accumulates water that falls from the stored toothbrushes 12. This second embodiment of the dental hygiene organizer 30, according to the present invention, also has areas 37 over each toothbrush 12 whereupon can be shown the names of each user of each respective toothbrush. Hinges, or hinge elements, 25 accommodate a covering door (not shown in this drawing) that is hingeably attached to the side wall 43b of the main body of the storage apparatus. Also shown in the second embodiment of the organizer 30, as shown in FIGURE 3, is a storage space 40, having side walls 43a, 43b, for storage of a bottle of mouth rinse 42.

[0042] Referring to FIGURE 4 there is shown an orthogonal side view of the second emboiment of the organizer 30 of the present invention which is shown in front view in FIGURE 3. This side

view shows the end wall 21a and a side slot 22 providing finger access to reach and extract from storage the dental floss container 11 within its storage space 13.

[0043] The space-saving dental hygiene organizer 10,30 described herein is intended to fit within a medicine cabinet, a bathroom vanity, within a bathroom linen closet, or on top of a toilet reservoir or other convenient surface within a typical bathroom. The dental hygiene organizer 10,30 can also have accommodation provided in the form of screw holes or hooks (not shown) so that the dental hygiene organizer can be attached to walls, or installed within a wall wherein recessed space has been provided.

[0044] The invention envisions two embodiments of the present invention:

Embodiment One

[0045] FIGURE 5 is an isometric view of a first embodiment 50 the present dental hygiene organizer invention. In this embodiment, there are provided individual support structures 52 for supporting a plurality of toothbrushes 51, which are shown in the FIGURE as displaced forward of the organizer 50. While the support structure is adapted for about four toothbrushes 51, it is within the terms of the present invention to adapt it to a more or less number of toothbrushes. Solid separating partitions 61 separate and isolate the respective stored toothbrushes from one another. A tube of toothpaste 67

is shown in two locations, one displaced from the organizer 50, the other within its confinement space 53 having side walls 54a,54b and front retainer wall 55 having a slot 56 therethrough to accommodate the axle of a toothpaste extractor 57. The extractor can be a rod 57a with wheel-like ends 57b having a larger diameter than the rod 57a. The rod 57a can have a slot (not shown) into which the end of the toothpaste tube 67 is received. Then, the toothpaste tube 67 attached to the extractor 57 can be inserted into space 53 so that the rod 57 is disposed in the slot 56 so that a wheel-like ends 57b is outside of the retainer wall 55. Beneath the toothpaste tube storage space 53 is a opening 58 adapted to receive a dental floss container 59. A side slot 60 provides access to the dental floss container, for easy removal thereof.

- [0046] Laterally adjacent the dental floss storage space 58, and shown displaced therefrom, is shown a drip tray 62 having at least one pull handle 63. The drip tray 62 receives water that drips off the toothbrushes 51 after they have been used and then stored in the organizer 50. The drip tray is removable.
- [0047] The areas 69 above each respective toothbrush is designed to accommodate a name tag 69 for the person whose toothbrush 51 is stored in that respective location. An optional removable door covering 66 is shown affixed to hinges 68. A backwall 65 is provided.

Embodiment Two

[0048] FIGURE 6 is an isometric view of a second embodiment 70 the present space-saving dental hygiene organizer invention. In this embodiment are shown individual support structures 72 for supporting two toothbrushes 71, shown displaced forward of the organizer 70. Solid separating partitions 81 separate and isolate the individual toothbrushes 71 from each another. While the support structure is adapted for two toothbushes 71, it is within the terms of the present invention to adapt it to a more or less number of toothbushes. A tube of toothpaste 75 is shown in two locations, one displaced from the organizer 70, the other within its confinement space 74 having side walls 76a,76b and front retainer wall 77 having a slot 78 therethrough to accommodate a toothpaste extractor 79. The extractor 79 (like extractor 57) can be an axle or rod 79a with wheel-like ends 79b having a larger diameter than the rod 79a. The rod 79a can have a slot (not shown) into which the end of the toothpaste tube 75 is received. Then, the toothpaste tube 75 attached to the extractor 79 can inserted into space 74 so that the rod 79a is disposed in the slot 78 so that a wheel-like ends 79b is outside of the retainer wall 77. Beneath the toothpaste tube storage space 74 is an accommodation 80 for a dental floss container 81. A side slot 82 provides access to the dental floss container, for easy removal thereof.

[0049] Laterally adjacent the dental floss storage space 80, and shown displaced therefrom, is shown a removable drip tray 83 having

pull handle 84. The drip tray 83 receives water that falls from the toothbrushes 71.

- [0050] The flat areas 85 immediately over top of each respective toothbrush 71 accommodates name tags 85 for each person whose toothbrush is stored in that respective location. An optional removable door 86 is shown affixed to hinges 87. A backwall 88 is provided.
- [0051] Although the invention has been described in connection with various specific embodiments, those skilled in the art will appreciate that numerous adaptations and modifications may be made thereto without departing from the spirit and scope of the invention as set forth in the specification and drawings.